# Production and Partial Purification of an Extracellular Protein with Antibacterial Activity Produced by *Trichoderma harzianum*

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Trichoderma is a fungal genus that comprises a set of species with biological control activity against phytopathogenic fungi. This activity can result by the production of enzymes, proteins or antibiotics with antimicrobial activity. In the present work, the antibacterial activity of *T. harzianum* isolates from Cerrado soil was evaluated against the phytopathogenic bacteria *Xanthomonas campestris PV campestris* and *Ralstonia solanacearum*. Antibacterial activity against these bacteria was detected to the isolate ALL-49, and this result was not detected for boiled samples. This activity is produced by the isolate after 48 hours of growth on liquid minimum medium containing *Fusarium oxysporum* mycelia as carbon source. Proteins, corresponding to the active fractions, with molecular masses between 45 and 60 kDa, were partially purified by chromatographic methods using Octyl sepharose and Q-sepharose columns, and their bactericidal activity was confirmed using a non-denaturing activity gel. The data show that *T. harzianum* has properties that make it an attractive candidate for the development of strategies to control *Xanthomonas campestris PV campestris* and *Ralstonia solanacearum* diseases.

Keywords: *Trichoderma harzianum*, antibacterial activity, *Xanthomonas campestris* PV. *campestris*, purification.

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